

Bulletin

Records Broken in Use of Road Shows

The number of spring 1996 Road Show sessions, sponsored by the Northwest T² Center, exceeded all previous records. Eighty sessions by new Road Show trainer John Easley were well received by over 800 people in 87 agencies.

John traveled over 11,000 miles in four months to provide local agencies and Indian Nations with informal training on numerous subjects from our repository of over 350 videos. Many people enjoyed and appreciated John's visit to their shops and offices as noted by the

ratings of his workshops. He visited many agencies that had not taken advantage of our T² Road Shows for awhile. Overall, 95 percent of his ratings were good or better — a remarkable feat.

Even though the majority of sessions have been on maintenance, we also have materials on equipment operation and safety, general safety, planning, design, and management.

We intend to start our fall Road Shows in September, so give us a call as bookings fill up fast.



The Northwest Technology
Transfer Center
TransAid-WSDOT



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Editor's Column

How many times have we not accepted the skills and experiences of our associates or employees and relied on our own means or used an outside "expert." The work "expert" has been defined as "someone with a briefcase and from out of town."

Many of our friends, family members, associates, and employees have a wide variety of educational and work experiences. These may not be known to us or we end up not giving much credence to them. An "outsider's" viewpoints and recommendations, on the other hand, are normally accepted as true and wise. What a waste of talent and a demotivator to all.

Perhaps its time, in this "communication era," to get back to the "basics" and make a little more effort to discover the hidden talents of the people we associate and/or work with. The first step is made by asking questions and learning more about each others interests, skills, and experiences. The second step is obviously sharing this "brain trust" in our daily activities whether at home, work, or elsewhere.

Editor: George Crommes

If a man has talent and cannot use it, he has failed.

If he has talent and uses only half of it, he has partly failed.

If he has talent and learns somehow to use the whole of it, he has gloriously succeeded, and won a satisfaction and a triumph few men will ever know ...

Thomas Wolf

LTAP (T²) Begins Strategic Planning Process

The Federal Highway Administration (FHWA) Office of Technology Applications and the National Association of Transportation Technology Transfer Centers (NATTTTC) have begun to develop a national strategic plan for the Local Technical Assistance Program (LTAP).

This strategic plan will be an important tool for the LTAP program in preparing for and responding to the most pressing challenges in serving their customers over the next several years. The resulting plan will:

- ☐ Clarify the future direction, purpose, and vision of LTAP as defined by LTAP, its customers, and its partners;
- ☐ Clarify the conditions or factors which on a national level may promote or hinder the continued success of LTAP;
- ☐ Define broad strategies to address the most critical national issues facing LTAP through building on existing program strengths and opportunities as well as minimizing and preparing for expected challenges; and
- ☐ Provide a foundation for establishing LTAP priorities, guiding decisions, and securing program resources.

This effort is being coordinated by Cheri Trendera, Director of the Minnesota LTAP Center.

Representatives from the LTAP T² centers (both university and state department of transportation-based), tribal T² centers, FHWA, National Association of County Engineers, American Public Works Association, American Association of State Highway and Transportation Officials, Intertribal Transportation Association, National Highway Traffic Safety Administration, and Federal Transit Administration comprise the LTAP Strategic Planning Committee.

State DOTs and the T² centers have submitted comments and suggestions to the draft plan. At the National Association of Transportation Technology Transfer Center's association meeting in August, the Strategic Plan will be evaluated for approval.

Source: Adapted from NACE News, April 1996.



Asphalt, Heavy Metal, and Road Information

by George Crommes, P.E.

I just received a copy of three completed research reports from WSDOT's Research Office. No, this research is not about motorcycling down backroads listening to heavy metal music. Rather it's about the following for which I thank the Research Office staff for providing. If you are interested in more detail, contact the Research Office. The Internet address is <http://www.wsdot.wa.gov/ppsc/research/rpage.htm>. Telephone number is (360) 705-7971.

Hot In-Place Recycling, SR 97 West Wapato Road to Lateral A Road

"This report documents WSDOT's first hot in-place asphalt pavement recycling project. The construction project, located on SR 97 near Zillah, included the recycling of the two southbound lanes for a distance of about 5 miles. The hot in-place recycling process consists of a series of equipment that heats the top 2 inches of pavement, grinds it up, then picks it up and mixes it with

additional new aggregate and asphalt binder, and then lays it down and compacts it all within the existing lane. The construction went smoothly and there is no indication at this point that the recycled section will not perform as well as a section recycled in the conventional manner. The conventional recycling process involves grinding the pavement (unheated) and hauling the recycled asphalt pavement to a conventional asphalt plant where it is combined with new aggregate and asphalt binder, and then hauled back to the highway where it is run through a paver and compacted."

The Retardation of Heavy Metals in Stormwater Runoff by Highway Grass Strips

"The objective of this project was to determine the effectiveness of highway grass strips as a retention mechanism for heavy metals in non-point stormwater runoff. The Washington State University research team designed and

constructed a full scale test plot. The plot was used to determine retention for various flows and slopes. The largest portion of metals was retained within the initial 1 meter of grass strips and within 1 centimeter of depth."

A Real-Time Freeway Traveler Information System: Expansion, Implementation, and Evaluation

"This report documents the third phase of efforts to develop an advanced traveler information system for the Puget Sound region. It documents the usability tests and delivery tests that were conducted. Prototype installations of a touch screen kiosk were made at Westlake Mall and Bellevue Place as well as at KIRO News Radio. The Traffic Reporter was redesigned and enhanced as a result of the test runs; these improvements are incorporated in the department's proposed Model Deployment Initiative prepared by the Advanced Technology Branch." ■

34th Annual Road and Street Maintenance Supervisors' School

✓ New! Recertification Classes in First Aid and Flagger Card Recertification ✓ Partnering — Interagency Cooperation ✓ Surface Maintenance ✓ Vector Waste ✓ Personnel Issues/ Customer Service ✓ Rubber Tire Fill ✓ Drug Testing ✓ Recycling ✓ Violence in the Workplace ✓ Liability ✓ Exhibits

Luncheon Presentation: "1997 Revenue/Funding Outlook"
Sid Morrison, Secretary, Washington State Department of Transportation (east)

East: October 22-24, 1996 — Red Lion Inn — Valley, Spokane
West: December 11-13, 1996 — Red Lion Hotel — Bellevue

Call WSU 1-800-942-4978 to Register

In the News

✓ MUTCD Revised, Comments Sought

The FHWA is proposing to amend the *Manual on Uniform Traffic Control Devices* to assign the color fluorescent yellow green as an optional color for pedestrian, bicycle, and school warning signs. Comments will be accepted until October 7, 1996, and should be submitted to FHWA Docket No. 96-9, FHWA Room 4232, HCC-10, 400 Seventh Street, SW, Washington, D.C. 20590. For more information, contact Ernest Huckaby at (202) 366-9064. (June 7, 1996, Federal Register, page 29234.) ■

Source: *AASHTO Regulatory Monitor*, June 12, 1996.

✓ Southwick Receives Roy Morse Award

At the APWA/AWWA Joint Spring Conference in Bellevue, Larry Southwick, assistant director for business administration for the city of Bellevue, was recognized with the Washington Chapter's Roy Morse Award. Larry's lifetime contributions to his community and to the public works profession were recognized by the Awards Committee in bestowing this award. ■

Source: *WA Chapter APWA Newsletter*, Summer 1996.

✓ New AASHTO Bridge Book

AASHTO has published the new "Standard Specifications for Highway Bridges, 16th Edition."

The publication includes the structural design standards used by state bridge engineers, engineering colleges and universities, and practicing engineers worldwide. It is presented in customary U.S. units. The new edition replaces the 15th edition of the *Standard Specifications for Highway Bridges*, as well as the *Interim Specifications — Bridges — 1993, 1994, and 1995*.

The loose-leaf 760-page publication is available from AASHTO at a cost of \$59 for AASHTO member departments and \$71 for non-members. ■

Source: *AASHTO Journal*, July 5, 1996, Vol. 96, No. 25.

✓ Synopsis of Public Works Legislation Available

Mark Erickson, city of Olympia attorney, has prepared a synopsis of legislation most significant to the public works community from the 1996 Session, which along with the full text of all these bills is available from Municipal Research Services Center and Association of Washington Cities. New laws of particular interest include SHB 2301 —

✓ Rail Merger Moves Forward

A merger of the Union Pacific and the Southern Pacific Railroads to create the nation's largest railroad was approved unanimously by the Surface Transportation Board, successor to the Interstate Commerce Commission.

The \$5.4 billion merger, which was announced last August, can now be finalized 30 days after the issuance of written approval by the STB.

The merger was approved with few conditions, most of which dealt with commitments by UP and SP to share track with rival Burlington Northern Santa Fe. That provision will allow BNSF access to some 4,000 miles of track and permit the purchase of 330 additional miles of track in certain key corridors. The agreement will allow BNSF to put together a single line route between Seattle and the border of Mexico. ■

Source: *AASHTO Journal*, July 5, 1996, Vol. 96, No. 25.

Stormwater Facility Changes for Highways; ESHB 2657 — Assistance Loan Accounts for Solid Waste and Recycling Facilities; SSSB 5757 — Public Bidding; SB 6090 — Recording of Instruments by Electronic Transmission; SSB 6093 — Sidewalk Reconstruction. ■

Source: *WA Chapter APWA Newsletter*, Summer 1996.

Software Piracy? Us?

by Michael J. Davis

The Business Software Alliance has estimated that software piracy costs software developers approximately \$12 billion annually in lost revenues. In the U.S., approximately one-third of all software is pirated. Software piracy is the unauthorized duplication of software and is a federal offense.

Should your agency be concerned? Many businesses don't realize that any disgruntled employee can call the Software Publishers' Association hotline and report software theft. Even if your agency has not illegally duplicated software, you could still be responsible for employees who have duplicated software. Some states are contemplating laws that would assess criminal penalties against firms for illegal acts committed with their systems if it could be

proven that the firms did not take enough steps to safeguard systems.

Check to see if your agency has committed software piracy:

- ✓ Have you bought software for one computer and installed it on two or more computers. This is a felony.
- ✓ Have you transferred a computer from one person to another with software intact and also loaded the same software again onto the computer that replaced it? This is a felony.
- ✓ Have employees brought in their own licensed software and duplicated it in the office without purchasing software agreements? This is a felony.

To protect your office against software piracy, software should be



stored in a locked area. When budgeting, funds should be allocated to buy software in the appropriate quantity to meet your needs. When you purchase software, read the software agreement that comes with the package. If you need additional copies of a program, often you can just purchase additional licenses from the software vendor. Finally, random audits should be conducted to check employees' hard drives. ■

Source: Reprinted with permission of Kansas T² Center. Kansas Trans Reporter, July 1996.

Name Dropping Works

By Stan Sanders

For the past year, the T² Center has been providing consulting firms, cities, and counties with the names of retired professional and technical engineering personnel who have indicated an interest in seasonal or part-time engineering work. This pool of talent has impressive credentials. It provides local agencies with individuals on relatively short notice, to do that short-term job which is beyond the capability of an agency's current staffing levels.

For example, a member of our pool of professionals was recently referred to a consulting firm contracted to do

a \$1.5 million project for a large city. The position requirements matched the credentials of the individual. He was hired to fill the eight-month position which oversees the reconstruction and landscaping of a bike/walking/jogging path. The requirements set forth in the contract were unique and the firm exhausted its list of contacts before coming to the T² Center.

Other agencies have contacted us for referrals when they had specialized work to be done or needed an experienced person for a short

period of time or to fill a special need. We are proud to be of service to the agencies we serve in those areas where we can make a difference.

How does this service work? Retired individuals who have experience in public works including construction, design, inspection, etc., are invited to submit information about themselves, their experience, location of preferred employment, as well as other information related to work he or she is interested in

Continued on page 6

performing. This information is then put into a data bank maintained by the T² Center and is made available to agencies or others seeking temporary help.

Information about the program (adapted from a similar program of the Iowa T² Center) can be obtained by contacting us at (800) 973-4496

or (360) 705-7477. Employment information should be sent to the Northwest T² Center, WSDOT TransAid Service Center, P.O. Box 47390, Olympia, Washington 98504-7390. After receiving the information, it is entered into the data bank. This information is

verified with the person prior to distribution to requesters.

The information on retired professionals is now available on the Internet via the TransAid Service Center's home page, <http://www.wsdot.wa.gov/transaid/newsrce.htm> — Come visit us. ■

Idaho T² Center Moves to University of Idaho

by George Crommes, P.E.

The Idaho Transportation Department (ITD) has selected the University of Idaho to operate the state's Technology Transfer (T²) Center beginning July 15, 1996. Professor Michael Kyte will be the

Director and John Hopkins will become the T² Program Manager. John managed T² centers in Oklahoma, Montana, and Arizona and is known in Idaho. Steve Loop, the former director, has moved on to become the Lab Research Engineer

in the Idaho Transportation Department's materials section. We wish Mike and John success and thank Steve for the opportunities that our two centers have shared in training and technical materials. We look forward to cooperative efforts with Mike and John. ■

Recycling and Waste Materials Use

The May-June issue of "TR News" by the Transportation Research Board provides interesting examples of recycling and use of waste materials and their by-products in the transportation infrastructure. Case studies are provided from Florida, Washington, California, North Carolina, New York, Union Pacific Railroad. In addition, articles are provided from academia, the private sector, and governmental officials.

Of particular merit is an article by Keith Anderson of WSDOT's Research Office. Keith summarizes WSDOT's efforts in using recycled materials for road construction. In WSDOT, many recycling activities

started in the 1970s and continue today. Keith explains Washington's recycling efforts in the following areas.

1. Recycled asphalt pavements (cold and hot mixes).
2. Crumb rubber use including Plus Ride and chip seal asphalt.
3. Discarded tires for embankments.
4. Wood fibers for light weight fills in landslide-prone areas (since 1972).
5. Waste glass (cullet) as an aggregate in asphalt concrete pavement (since 1960s), backfill for foundations, pipe bedding.
6. Fly Ash use in portland cement concrete pavements and structural concrete.
7. Use of compost (yard waste as well as sewage sludge for landscaping).
8. Reclaimed Portland cement concrete by its use as an aggregate for ballast, asphalt concrete pavements, pipe bedding, etc.
9. Recycling aluminum sign stock, a real money saver.

Contact Keith Anderson at (360) 709-5405 for more in-depth information. ■

Clearinghouse on Enhancement Activities

The Federal Highway Administration has joined together with the Rails-to-Trails Conservancy and the Bicycle Federation of America to form a national program that will provide information and referrals to the public on Transportation Enhancement Activities.

The National Transportation Enhancement Clearinghouse is intended to be a central point of information, resources, and referrals on all aspects of enhancement activities taking place across the nation. The Clearinghouse will also publish and distribute reports and materials.

The Transportation Enhancement Program was established under the Intermodal Surface Transportation Efficiency Act (ISTEA). The Act mandates that 10 percent of Surface Transportation Program (STP) funds be used for transportation enhancements such as historic preservation, scenic beautification, mitigation of highway runoff, and the development of bicycle, pedestrian, and trail facilities.

Contact the NTEC Monday through Friday from 9 a.m. to 6 p.m. (EST) at (202) 463-0641. A toll free number is also available at (888) 388-6832. ■

Source: AASHTO Journal, July 5, 1996.

A New Organization Formed

The formation of the National Association of City Transportation Officials (NACTO), was announced July 7 in New York City, just prior to a two-day International Urban ITS Workshop sponsored by 13 major European and North American cities.

The NACTO was launched by the transportation officials of Boston, Chicago, Los Angeles, New York, and Philadelphia, who met in New York for the announcement. The purpose of the organization is "to serve as a forum for the exchange of information on technology, design standards, and operational issues, as well as to influence positively national and international decisions affecting transportation." The effort to create NACTO was led by departing New York City Transportation Commissioner Elliot G. Sander. It is expected that the original five cities will expand to several more over the coming months. ■

Source: AASHTO Journal, July 5, 1996.

A Survey of Our Readers — Can You Help?

Continual improvement is always our goal. How can we provide better service for you? Please provide us your comments on the following. Copy or tear out this survey form and mail or fax to us. We appreciate your interest in the T² programs and your suggestions.

1. Newsletter: Format, Content, Article Contributors.

2. Training/Workshops: Topics, Cost/Day, Scheduling, Length, Co-Sponsored, Multi-Media, CD-I, Interactive Satellite Downlink.

3. T² Road Shows

4. Videotape Loan: Topics, Sources, Quality.

Continued on page 8

5. Special Products: e.g., PMS Guides, Road Raters Guides, Field Guides, Metric Cubes. etc.

6. Technical Advice.

7. Other Suggestions and Ideas for Us?

8. Other Comments on our Services?

Mail or fax to the NWT² Center, attention George Crommes, Director, (360) 705-6858. Address on back.

Agency _____

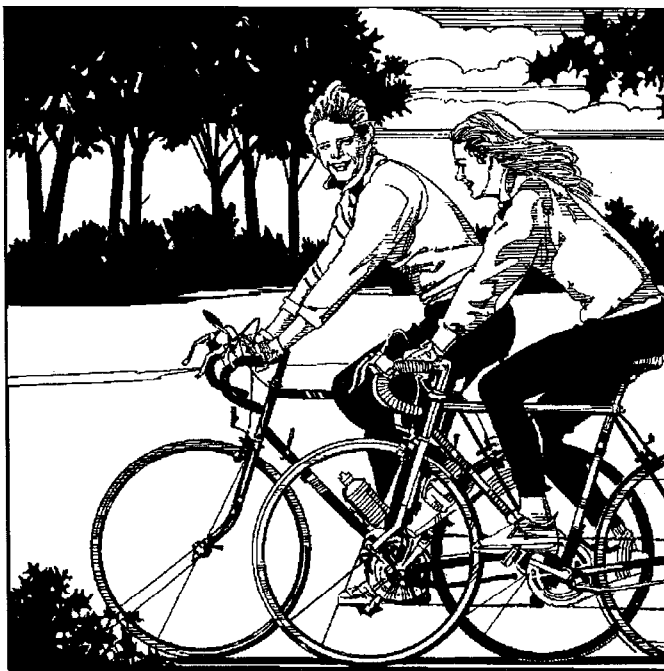
Name _____

Title _____

Stan Sanders — Good Luck and Best Wishes

Stan, our T² Training Coordinator, has decided to take up another occupation — called retirement. At the end of August, Stan will have completed 25 years with the state of Washington with 20 of these with WSDOT. For the past two years, Stan has been part of the NWT² Center's team. Stan has contributed to numerous functions of the Center including getting the word out about training opportunities and promoting the creation of training where none existed in a particular area.

Stan and his wife, Joan, plan to do a lot of traveling in the coming years and explore the nation by trailer and bicycle. We wish Stan and Joan the best and as one famous person said: "Happy trails to you" — bicycle trails that is. And thanks, Stan, for the contributions and support you have given to the T² Center. ■



The Applied Research and Technology (ART) Program

In 1994, FHWA announced a new program to support new highway technologies. The Applied Research and Technology (ART) Program allows for accelerated testing and evaluations of new technologies to improve both the physical condition and operation of highways and bridges.

Assistance will be provided by the American Society of Civil Engineers' HITEC* program administrators.

Proposals for evaluation of projects requesting ART Program funding are invited from anyone — private or public. Proposals are sent to HITEC, which will process applications. HITEC will act as the clearinghouse for new technologies from the public and private sources. Public agencies should encourage private companies or individuals to submit their "innovative" technologies, including proprietary products, to HITEC for screening and possible evaluation. HITEC will develop an evaluation procedure with the assistance from the public sector. Hence, the plan for evaluation will be forwarded to FHWA for possible funding under ART. State highway agencies may submit applications to HITEC for noncommercial technologies.

The ART program may provide up to 80 percent of funding for installing or constructing new technologies for FHWA approved projects. In

addition, the costs for testing, data collection, evaluation, and report preparations associated with the project are eligible for up to 100 percent ART funding.

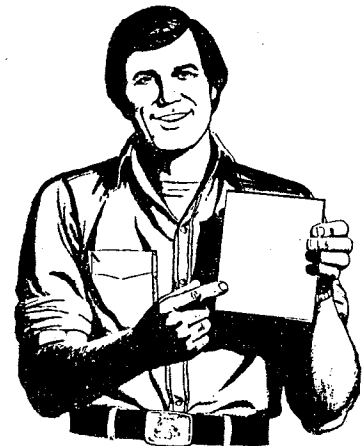
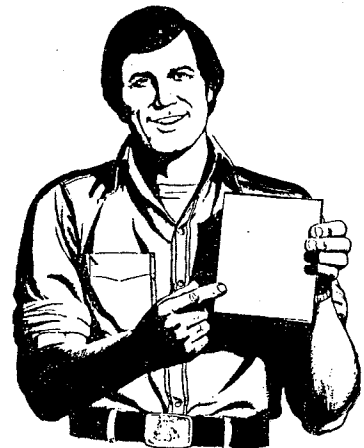
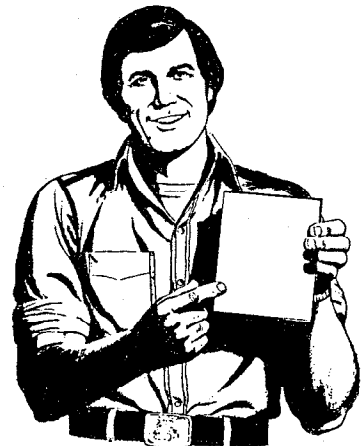
Funds are not available under ART for general research and development (R&D) or for any technology development costs.

A wide range of technologies are eligible for consideration under ART including the following:

- Accelerated construction materials and procedures.
- Materials and procedures that are environmentally beneficial.
- Materials and procedures that enhance the serviceability and longevity under adverse climates, environments, and loads.
- Technologies that increase efficiency and productivity of vehicular travel, and
- Technologies that enhance safety and accessibility of vehicular transportation systems.

For more information on ART, contact HITEC, c/o Civil Engineering Research Foundation, 1015 15th Street NW, Suite 600, Washington, D.C. 20005-2605. Telephone (202) 842-0555, Fax (202) 789-5345. ■

**HITEC, Highway Innovative Technology Evaluation Center.*



Free Publications

For Washington recipients only.

Name _____

Agency _____

Address _____

City and Zip _____

Phone _____

Check those items you would like to order.

- ☐ LTAP News, 1993
CD ROM listing of major articles from T2 Center newsletters from across the country. Must have Microsoft Windows, a CD ROM drive, and color monitor (IBM compatible only).
- ☐ Highway Utility Guide, FHWA
- ☐ Scrap Tire Utilization Technologies, NAPA
- ☐ State-of-the-Art Survey of Flexible Pavement Crack Sealing Procedures in the United States, CRREL (1992)
- ☐ Maintenance of Aggregate and Earth Roads, NWT² Center (1994 reprint)
- ☐ Traffic Conflict Techniques for Safety and Operation, FHWA
- ☐ International State-of-the-Art Colloquium on Low-Temperature Asphalt Pavement Cracking, CRREL
- ☐ The Engineer's Pothole Repair Guide, CRREL
- ☐ Geotextile Selection and Installation Manual for Rural Unpaved Roads, FHWA
- ☐ Gravel Road Test Sections Insulated with Scrap Tire Chips, US Corps of Engineers
- ☐ Municipal Strategies to Increase Pedestrian Travel, Draft 1994, Rhys Roth, Energy Outreach Center
- ☐ Guide to Safety Features for Local Roads and Streets, FHWA (1992)
- ☐ Family Emergency Preparedness Plan, American Red Cross, et.al.
- ☐ Fish Passage Thru Culverts, USDA, FHWA, 1990
- ☐ Local Low Volume Roads and Streets, ASCE, 1992
- ☐ Maintenance of Small Traffic Signs, FHWA
- ☐ Snow Fence Guide, SHRP
- ☐ The Superpave System — New Tools for Designing and Building More Durable Asphalt Pavements, FHWA
- ☐ A Guide to the Federal-Aid Highway Emergency Relief Program, USDOT, June 1995

Workbooks and Handouts from T² Center Workshops

- ___ Functional Assessment of Wetlands. Textbook from the class. Small supply left.
- ___ Livable Neighborhoods: Rethinking Residential Streets. Handout from the teleconference.
- ___ Planning and Implementing Pedestrian Facilities in Suburban and Developing Rural Areas, TRB 1987
From the workshop "Planning and Design of Pedestrian Facilities."
- ___ Handbook for Walkable Communities, by Dan Burden and Michael Wallwork
From the workshop "Planning and Design of Pedestrian Facilities."
- ___ Metric (SI) Training for Highway Agencies, NHI. Workbook from the class.
- ___ Basic Metric System, WSDOT. From the workshop.

Brief (One-to ten-page) Handouts

- ___ Asphalt Pavement Recycling
- ___ Eye and Face Protection: Safety Goggles
- ___ Individual Productivity — Understanding What Makes It Happen
- ___ Know the Dangers of Confined Spaces
- ___ Mitigating Road Hazards
- ___ One-Minute Stress Beaters
- ___ Operator Daily Maintenance of Motor Graders
- ___ Roadway Safety: Where Does it Rank on Your List of Priorities?
- ___ Standing on Your Own Two Feet: And Other Reasons to Use Foot Protection
- ___ Working with Pesticides
- ___ Tool Tips
- ___ Tips for Reducing Tort Liability (articles from various sources)
- ___ How to Coach a Winning Team
- ___ Are You at Risk for CTS?

Orders may be faxed, mailed, or phoned to Laurel Gray

Phone: (360) 705-7386, Fax: (360) 705-6858

Mailing Address: NWT² Center, WSDOT/TransAid, P.O. Box 47390,
Olympia, WA 98504-7390

Concrete Pavement Seminars Planned

A series of 12 local public forums conducted during May and June throughout Washington on transportation needs and future requirements will be followed this fall by two regional seminars on long-term pavement design and construction. Portland and Boise are the designated sites for the duplicate two-day seminars, organized and coordinated by a consortium of federal and state highway departments, academia, and industry representatives.

The Northwest Concrete Pavement Seminar in years past has been conducted bi-annually in a single location. The 1996 seminars will provide educational sessions for city and county public works and engineering professionals. This is the first year that the public/private sponsoring partnership will organize duplicate sessions to make it easier for more municipal staffs to attend. Road surface deterioration in many areas as well as severe budget constraints are focusing attention on efficient use of limited funds and making streets and intersections last as long as possible with minimum maintenance requirements.

City engineers and concrete pavement specialists are expected to discuss applications for local roads, design procedures, construction details, maintenance and rehabilitation of old streets, white topping experiences and performance, pavement management systems, life cycle cost analysis, innovative contracting, and local case histories of city streets that have performed many years with little or no maintenance. Increased public transit consequences and design precaution, and freight mobility needs will also be included as seminar topics.

The Portland event is scheduled for October 29-30 followed by the Boise seminar on October 31-November 1.

For additional information, call Don Pedersen, FHWA, (503) 326-2071, or Ed Savage, ACPA, (206) 453-8007. ■

1996 Pacific International Exposition (PIE).

October 1-3, Reno, Nevada. Exhibits, seminars, and tours. Fees for seminars and tours. *No fee for early registration, \$20 at the door. 3 days.*

American Public Works Association, Washington

Chapter, 1996 Fall Conference.

October 1-4, Wenatchee. APWA, Washington Chapter, (360) 753-4173, Fax (360) 753-4896. *4 days.*

Footprints and Bike Tracks.

October 10-12, Seattle Center. 3 days.

Northwest Pavement Management Association

(NWPMA) Annual Conference.

October 15-17, Spokane, NWPMA (509) 456-3600, 3 days.

34th Annual Road & Street Maintenance Supervisors' School.

October 22-24, Red Lion Inn, Spokane; December 11-13, Red Lion Hotel, Bellevue. \$195, \$295 Exhibitor. *3 days. Washington State University, Conferences and Institutes, (800) 942-4978.*

Governor's Industrial Safety and Health Conference.

October 24-25, Spokane. Department of Labor and Industries. (360) 902-5160. 2 days.

Washington State Association of Counties (WSAC)

Legislative Conference.

November 13-15, Tower Inn, Richland, 3 days. WSAC, (360) 753-7886, Fax (360) 753-2842

47th Annual Road Builders' Clinic.

March 18-20, 1997, Coeur d'Alene, Idaho. Conference and Workshops. \$185. 3 days. Washington State University, Conferences and Institutes. (800) 942-4978, Fax (509) 335-0945.

Northwest Transportation Conference.

February 5-7, 1997; Corvallis, Oregon.

Work Smarter Not Harder:

Expand Your Knowledge

Use WSDOT's Library — A Free T² Resource. Information on:

- | | |
|--------------|----------------|
| ❖ Planning | ❖ Construction |
| ❖ Design | ❖ Maintenance |
| ❖ Management | ❖ Materials |

(360) 705-7750

Opportunities to Enhance Your Skills

For more information or training needs not listed in this Bulletin, contact Stan Sanders, Northwest T² Center Training Coordinator, at (800) 973-4496 or (360) 705-7477

Classes and Workshops

NWT² Center
Contact Laurel Gray, T² Center, WSDOT
(360) 705-7386, Fax (360) 705-6858

Access Management, Location and Design, NHI (BJ8). September 10-12, Tacoma Community College. Discussion, workshop, case studies. \$100. 2 days.

Techniques for Pavement Rehabilitation, NHI (A45). October 8-11, Seattle. Discussion, lecture, workshop, case studies. \$100. 3½ days.

Slope Maintenance and Slide Restoration, NHI (A5E). November 7, Kent. Discussion, lecture, workshop. \$50. 1 day.

Geosynthetics Engineering Workshop, NHI (AJP). December 2-5, Seattle.

Pedestrian and Bicycle Classes. October 10, Seattle Center. To be held in conjunction with the Footprints and Bike Tracks Conference.

Temporary Erosion and Sediment Control (BMB, BMC). October 15-6, October 17-18, February 11-12, March 11-12, Wenatchee; November 12-13, November 14-15, December 3-4, December 5-6, January 14-15, January 16-17, February 18-19, March 18-19, Seattle. For contractors, consultants, and local agencies dealing with state contract. \$100. 2 days.

Washington State Department of Transportation, Staff Development Training Opportunities, via the NWT² Center
(360) 705-7386. Fax (360) 705-6858

Call Laurel Gray in the T² Center to register.

If the class is full or not scheduled at this time we will put you on a wait list for future classes.

Concrete Repair and Restoration (APQ). September 11, Fife. No fee. 1 day.

NW Traffic Institute's Traffic Engineering Fundamentals (BIX). September 30-October 2, Seattle; November 19-21, Lacey. Lecture, discussion. \$200. 3 days.

Human Factors Affecting Highway Design, NHI (A4E). October 22, Olympia; October 24, Spokane. Lecture, discussion, workshop. \$50. 1 day.

Bridge Structures Inspection (ACM). November 12-14, Tacoma; December 10-12, Seattle. No fee. 3 days.

NW T² Center, APWA and Oklahoma State University
(360) 705-7386, Fax (360) 705-6858

The Environment and Public Works: Striking a Balance. August 27. A Satellite Course, Shoreline Community College; Transportation Building. Olympia. A satellite teleconference course. \$25, 3 hours, 11:00 a.m. to 2:00 p.m.

University of Washington, College of Engineering
Seattle Campus Refresher Courses
(206) 543-5539, Fax (206) 543-2352

Fundamentals of Engineering (FE)/Engineer-In-Training Refresher Course. September 9-October 16. Monday and Wednesday nights 6:30-9:00 p.m. Lecture, practical applications and problem solving. \$295. 12 sessions.

Civil Engineering Refresher Course. September 10-October 15. Lecture, practical applications and problem solving. \$325. 11 sessions
Mechanical Engineering Refresher Course. September 3-October 10. Tuesday and Thursday nights 6:30-9:00 p.m. Lecture, practical applications and problem solving. \$345. 12 sessions

Organizing and Implementing a Preventive Maintenance Program. October 8-9. Seminar, lecture, case studies. \$575. 2 days.

Washington State Department of Labor and Industries
(360) 902-5590, Fax (360) 902-5459

(A workshop can be conducted at your place of business.)

Accident Investigation. September 10, October 8, November 5, Tukwila; September 4, Longview; September 10, Walla Walla; September 11, October 31, Bellingham; September 19,

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Spokane; September 25, November 20, **Mount Vernon;** September 25, December 18, **Vancouver;** September 29, **Aberdeen;** October 10, **Tacoma;** October 16, **Bremerton;** October 22, **Tumwater;** October 23, December 11, **Everett;** October 29, **East Wenatchee;** November 7, **Port Angeles;** November 19, **Kennewick;** December 10, **Yakima.** Workshop, lecture. No fee. 3 hours.

Accident Prevention Programs.

September 25, October 15, November 5, December 5, **Everett;** September 26, November 21, **Vancouver;** November 6, **Mount Vernon;** September 3, October 1, November 5, December 3, **Tacoma;** September 10, September 26, October 29, November 14, September 11, **Bremerton;** October 30, December 18, **Bellingham;** August 27, September 24, October 29, November 26, **Port Angeles;** August 27, September 3, October 22, November 5, **Spokane;** September 9, **Kennewick;** September 10, December 11, **Clarkston;** October 10, November 7, **Tumwater;** October 21, **Walla Walla;** November 16, **Yakima;** December 11, **Tukwila.** Workshop, lecture. No fee. 1 day.

Bloodborne Pathogens.

September 12, October 10, November 26, December 18, **Tukwila;** September 11, October 23, November 20, **Vancouver;** August 27, **Mount Vernon;** September 11, **Spokane;** September 18, November 6, **Tacoma;** September 25, October 29, **Tumwater;** October 2, 1996, **Bellingham;** November 20, **Everett.** Workshop, lecture. No fee. 3 hours.

Confined Space. October 23, December 18, **Yakima;** August 27, September 25, October 8, November 13, December 17, **Tukwila;**

September 4, **Tacoma;** September 11, **Vancouver;** September 18, **Tumwater;** September 18, November 13, **Spokane;** September 24, **Mount Vernon;** September 25, **Aberdeen;** September 25, November 23, **Kennewick;** December 11, **East Wenatchee.** Lecture, slides, and video. No fee. 3 hours.

Excavation and Trenching.

September 24, December 17, **Yakima;** October 8, December 19, **Tumwater;** September 25, November 13, December 10, **Tukwila;** September 10, **Kennewick;** September 12, **Spokane;** September 17, October 15, November 19, **Tacoma;** September 18, **East Wenatchee;** September 24, **Bellingham;** October 10, **Everett;** October 15, November 7, December 10, **Vancouver;** November 12, **Walla Walla.** Workshop, lecture. No fee. 4 hours.

Fall Protection. September 24, October 9, November 12, December 19, **Tukwila;** October 10, December 5, **Tumwater;** November 7, **Spokane;** August 29, October 31, December 11, **Vancouver;** September 10, October 8, November 12, December 10, **Tacoma;** September 24, December 17, **Yakima;** October 8, **Everett;** October 22, **Mount Vernon;** October 29, **East Wenatchee;** November 5, **Walla Walla.** Workshop, lecture. No fee. 4 hours.

Hazard Communication.

October 22, **Tacoma;** September 12, October 10, November 26, December 18, **Tukwila;** September 18, October 24, November 13, **Vancouver;** September 24, October 1, November 26, **Spokane;** October 22, **Tumwater.** Lecture. No fee. 3 hours.

Introduction to Ergonomics and the New Voluntary Guidelines.

September 5, **Tacoma;** September 10, **Everett;** September 19,

Aberdeen; October 8, **Ephrata;** October 8, **Walla Walla;** October 15, **Longview;** October 16, **Spokane;** November 12, **Mount Vernon;** November 12, **Port Angeles;** November 18, **Tumwater.** Lecture, workbook. No fee. 4 hours.

Lockout-Tagout. August 7, September 5, **Yakima;** December 12, **Bellingham;** November 19, **Tumwater;** August 29, September 11, October 8, December 10, **Tukwila;** September 10, **Clarkston;** September 11, **Vancouver;** September 12, November 7, **Everett;** September 24, **Tacoma;** September 25, **Aberdeen;** October 8, **Walla Walla;** October 10, **Mount Vernon;** October 15, **Spokane;** December 11, **Bremerton.** Lecture. No fee. 2-3 hours.

Lead in Concentration.

October 16, **Yakima.** Lecture. No fee. 3 hours.

Workers' Compensation and the ADA Connection. October 10, December 11, **Tumwater;** September 5, October 31, **Longview;** September 12, **Aberdeen;** September 12, November 14, **Vancouver;** September 25, **Spokane.** Lecture. workshop is not to be considered a substitute for qualified legal advise. No fee. 3 hours

Washington State Department of
Personnel Employee Development and
Training Program
(Classes open to state and local agency
personnel.) (360) 586-2720

Entry Management Development.

September 9-12, **Tacoma;** September 16-19, **Olympia;** August 26-29, **Seattle.** Discussion, workshop. No fee. 4 days.

Managing Job Stress. August 26-27, September 12-13, **Olympia.** Workshop, lecture. \$80. 2 days.

Continued on page 15

Internet Basics. September 4, a.m., September 4, pm, September 11, a.m., September 16, am, September 26, p.m., **Olympia.** Hands-on workshop, examples. \$99. 4 hours.

Effective Meeting Management. September 25, **Tacoma.** Discussion, workshop. \$75. 1 day.

Time Management. September 6, **Olympia.** Workshop. \$60. 1 day.

Presentation Skills. September 25-27, **Olympia.** Workshop. \$100. 3 days.

Writing Manuals and Instructional Materials. August 30, **Olympia.** Workshop, lecture, examples. \$50. 1 day.

Communication Skills for Supervisors and Lead Workers. September 5-6, **Spokane.** Workshop. \$90. 2 days.

Leadership Skills that Work. August 27, 8-12 a.m.; August 27, 1:00-5:00 p.m., **Olympia.** Lecture. \$35. 4 hours,

OSHA Training Center
(800) 326-7568,
Fax (206) (206) 685-3872

OSHA Standards for the Construction Industry, OSHA 510. September 9-12, January 13-16, 1997, May 5-8, 1997, **Seattle OSHA Training Center;** October 27-30, 1997, **Portland Community College.** Workshop, lecture. Bring a current copy of OSHA Construction regulation, 29 CFR 1926 to class. \$525. 4 days.

Trainer Course, OSHA Standards for the Construction Industry, OSHA 500. September 16-19, January 20-23, 1997, May 12-May 15, 1997, **Seattle OSHA Training Center;** March 17-20, 1997, **Portland Community College.** Workshop, lecture. Prerequisites include successful completion of

course 510, and have five years of construction safety experience. Bring a current copy of OSHA Construction regulation, 29 CFR 1926 to class. \$525. 4 days.

Trainer Course, OSHA Standards for General Industry, OSHA 501. September 23-26, February 17-20, 1997, June 9-12, 1997, **Seattle OSHA Training Center;** April 7-10, 1997, July 21-14, 1997, **Portland Community College.** Workshop, lecture. Bring a current copy of OSHA Regulation, 29 CFR 1910 to class. \$525. 4 days.

OSHA Guide to Industry Hygiene, OSHA 521. December 2-5, **Seattle OSHA Training Center;** March 3-6, 1997 **Portland Community College.** Workshop. Prerequisite Course 501. Bring a current copy of OSHA Regulation, 29 CFR 1910 to class. \$495. 4 days.

Fred Pryor Seminars
(800) 255-6139, Fax (913) 722-8585

Management Problems of the Technical Person in a Leadership Role. October 1, **Olympia;** October 2, **Tacoma;** October 3, **Bellevue;** October 7, **Seattle;** October 8, **Everett;** October 9, **Yakima;** October 10, **Pasco;** October 11, **Spokane.** Lecture, discussion. \$195; \$185 each for 3 or more. 1 day

How to Manage Multiple Projects, Meet Deadlines, and Achieve Objectives. September 30, **Seattle;** September 30, **Wenatchee;** October 1, **Bellingham;** October 1, **Yakima;** October 2, **Pasco;** October 3, **Spokane;** October 7, **Everett;** October 8, **Bellevue;** October 9, **Tacoma;** October 10, **Olympia.** Lecture, discussion. \$99, \$89 each for five or more. 1 day.

The Internet. September 16, **Seattle;** September 16, **Wenatchee;** September 17, **Bellingham;** September 17, **Yakima;** September 18, **Pasco;** September 19, **Spokane;** September 23, **Everett;** September 24, **Bellevue;** September 25, **Tacoma;** September 26, **Olympia.** Learn how to understand, access and use the internet; six smart rules for security; if you must pay for access; getting an account; how logon procedures vary; UNIX for nonprogrammers; WAIS document search; World Wide Web; MOSAIC, the multi-media Web browser; basic rules for netiquette; and more. For anyone who wants to learn the how's and why's of Internet. Lecture, discussion. \$89. 1 day.

National Highway Institute
(703)-235-0500, Fax (703) 235-0593

Pavement Distress Identification and Techniques for Rehabilitation and Design. September 9-19, **Reno, Nevada.** Lecture, discussions, case studies and workshops. \$1,200. 10 days.

Conferences and Meetings

Transportation, Wetlands and the Natural Environment. September 18-20, **Tacoma.** Conference. 3 days, **WSDOT, Environmental Affairs Office** (360) 357-8044, Fax (360) 705-6833.

42nd National Conference on Local Transportation. September 29-October 2, **Chicago, Il.** \$350, **ARTBA** (202) 289-4434. 4 days.

The Fifth Annual National Rural Intelligent Transportation Systems (ITS) Conference. September 30-October 1, **Spokane.** Conference, presentations. 2 days. **ITS America.**

Continued on page 12

NW T² Advisory Committee

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Pend Oreille County, (509) 447-4821

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City of Stanwood, (360) 629-4577

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<http://www.wsdot.wa.gov/transaid/nwt2.htm>

Toll Free Training Number

1-800-973-4496

A newsletter of the Local Technical
Assistance Program (LTAP)

Issue Number 51, Summer 1996

Bulletin

The Technology Transfer Center (T²) Program is a nationwide effort financed jointly by the Federal Highway Administration (FHWA) and individual state departments of transportation. Its purpose is to translate into understandable terms the latest state-of-the-art technologies in the areas of roads, bridges, and public transportation to local highway and transportation personnel.

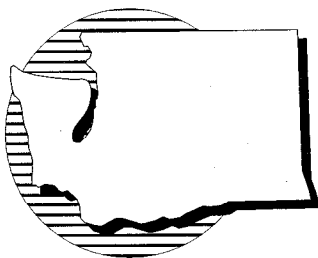
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**Washington State
Department of Transportation**
TransAid Service Center



U. S. Department of Transportation
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Northwest Technology Transfer Center

WSDOT-TransAid Service Center
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